

IN THE CLAMS:

Please amend the claims to read as follows. This is a complete listing of all prior and pending claims and replaces any prior listing in this application.

1. (currently amended) A program storage device readable by a machine, said program storage device tangibly embodying a program of instructions executable by the machine to perform a method for predicting the profitability of a commercial insurance policy, said method comprising:

obtaining policyholder data including premium and loss data from a database;

obtaining external data directed to at least one of business level data and household demographics data, the external data having a plurality of external variables to be used in predicting the profitability of the insurance policy;

associating the external variables with the policyholder data;

creating one or more derived variables from at least one of said external variables and said policyholder data;

evaluating the associated external variables **and the derived variables** against the policyholder data to identify ~~the individual external~~ **a set of** variables predictive of the insurance policy's profitability and creating a score based on an individually weighted multivariate statistical model based on said **set of individual external** predictive variables,

~~wherein said evaluating external variables includes evaluating the utility of creating new variables from the external variables and creating any appropriate new variables;~~

wherein said score is expressed as a sum of products, each of said products being a coefficient multiplied by a variable taken to a power, **said coefficients generated by operating on said set of predictive variables mathematically simultaneously,**

and wherein said score is a function of at least all of the predictive external variables and any predictive new variables.

2. (canceled)

3. (currently amended) The program storage device of claim 1 further comprising creating individual records in the database for each policyholder and populating each individual record with premium and loss data, business name, address and zip code for each policyholder and the associated external variables.

4. (previously presented) The program storage device of claim 1 further comprising associating at least one individual external variable with the individual records based on a unique data key associated with at least one external data source.

5. (previously presented) The program storage device of claim 1 further comprising normalizing the policyholder data in the database.

6. (previously presented) The program storage device of claim 5 wherein said normalizing further comprises premium manualization, loss trending and loss capping.

7. (original) The program storage device of claim 1 wherein the external data sources include external variables for at least one of geographic factors, business stability and weather patterns.

8. (previously presented) The program storage device of claim 1 wherein said evaluating the external variables further comprises examining the external variables for cross-correlation against one another in order to eliminate repetitive external variables.

9. (previously presented) The program storage device of claim 1 further comprising dividing the data in the database into a training data set for developing the statistical model, a testing data set for refining the statistical model and a validation data set for evaluating the predictiveness of the statistical model.

10. (previously presented) The program storage device of claim 1 wherein said identifying the external variables predictive of an insurance policy's profitability further includes normalizing the policyholder data, calculating for each policyholder the loss ratio based on the normalized policyholder data, defining a subgroup from the policyholder data, calculating a cumulative loss ratio for the subgroup and performing a statistical analysis to identify statistical relationships between individual external variables and the cumulative loss ratio for the subgroup.

11. (previously presented) The program storage device of claim 10 wherein the identified predictive external variables are examined for cross-correlations against one another.

12. (previously presented) The program storage device of claim 10 wherein the statistical model is created using multivariate methods to produce coefficients for each of the external

predictive variables and the coefficients represent the contribution of each of the external predictive variables to an overall score.

13. (currently amended) A program storage device readable by a machine, said program storage device tangibly embodying a program of instructions executable by the machine to perform a method for creating a statistical model that generates a score representative of the profitability of an insurance policy for at least one of a new policyholder and an existing policyholder, said method comprising:

gathering historical policyholder data, including loss and premium data;

identifying external data sources having a plurality of external variables, each external variable having a value applying actuarial transformation to the policyholder data to generate working data;

creating one or more derived variables from at least one of the external variables and the policyholder data;

calculating a loss ratio for each policyholder in the database based on the working data;

calculating a cumulative loss ratio for a defined group of policyholders in the database;

performing a statistical analysis that investigates the relationship of each external variable

and each derived variable and the cumulative loss ratio for the defined group to identify

~~external~~ **a set of** variables that are predictive of the profitability of the insurance policy; and

utilizing the **set of** predictive ~~external~~ variables identified in the previous step to develop an individually weighted multivariate statistical model that generates a score predictive of the profitability of the insurance policy,

~~wherein said performing a statistical analysis includes evaluating the utility of creating new variables from the external variables and creating any appropriate new variables,~~
wherein said score is expressed as a sum of products, each of said products being a coefficient multiplied by a variable taken to a power, **said coefficients generated by operating on said set of predictive variables mathematically simultaneously,**
and wherein said score is a function of ~~at least all of the predictive external variables and any predictive new~~ **said set of predictive** variables.

14. (previously presented) The program storage device of claim 13 wherein the statistical model is used to score at least one of an existing policyholder and a new policyholder in order to determine the premium for a commercial insurance policy.

15. (previously presented) The program storage device of claim 13 further comprising manualizing the premium data, actuarially modifying long tail losses and capping large losses.

16. (previously presented) The program storage device of claim 13 further comprising binning together similar values of an external variable having multiple values.

17. (previously presented) The program storage device of claim 13 further comprising examining the external variables for cross-correlation against one another in order to eliminate repetitive external variables.

18. (previously presented) The program storage device of claim 13 further comprising dividing the data in the database into a training data set for developing the statistical model, a testing data set for refining the statistical model and a validation data set for evaluating the predictiveness of the statistical model.

19. (previously presented) The program storage device of claim 13 wherein the statistical model is created using multivariate methods to produce coefficients for each of the external predictive variables and wherein said coefficients represent the contribution of the each of the external predictive variables to the score.

20-24 canceled.

25. (currently amended) A program storage device readable by a machine, said program storage device tangibly embodying a program of instructions executable by the machine to perform a method of performing risk-based pricing of an insurance policy, comprising: receiving a request for a price on an insurance policy; and evaluating the risk associated with issuing the insurance policy based on a profitability score derived from an individually weighted multivariate statistical model comprising a set of predictive variables, said set of variables generated ~~with~~ **from** historical policyholder premium and loss data, ~~and external~~ variables identified from external data sources, **and synthetic variables derived form said external data sources and said policyholder premium and loss data**, said external data sources being independent of internal policyholder data of an insurance company issuing the insurance policy,

~~wherein said identified external predictive variables include any predictive new variables created from external variables identified from said external data sources,~~

wherein said score is expressed as a sum of products, each of said products being a coefficient multiplied by a variable taken to a power,

wherein said coefficients are generated by operating on said set of predictive variables mathematically simultaneously,

and wherein said score is a function of at least **said set of** ~~the external~~ predictive variables.

26. (previously presented) The program storage device of claim 25 wherein the external data sources include external variables for at least one of geographic factors, business stability and weather patterns.

27. (previously presented) The program storage device of claim 25 wherein the external data sources include at least one of business level data and household demographics data.

28. (previously presented) The program storage device of claim 25 further comprising examining the external predictive variables for cross-correlation against one another in order to eliminate repetitive external variables.

29. (previously presented) The program storage device of claim 25 wherein said identifying the external predictive variables further includes normalizing the policyholder data, calculating for each policyholder the loss ratio based on the normalized policyholder data, defining a subgroup from the policyholder data, calculating a cumulative loss ratio for the

subgroup and performing a statistical analysis to identify statistical relationships between individual external predictive variables and the cumulative loss ratio for the subgroup.

30. (previously presented) The program storage device of claim 28 wherein the identified external predictive variables are examined for cross-correlations against one another.

31. (previously presented) The program storage device of claim 25 wherein the statistical model is created using multivariate methods to produce coefficients for each of the external predictive variables and the coefficients represent the contribution of the each of the external predictive variables to an overall score.

32. (previously presented) The program storage device of claim 25 further comprising the step of dividing the policyholder data into a training data set for developing the statistical model, a testing data set for refining the statistical model and a validation data set for evaluating the predictiveness of the statistical model.

33. (currently amended) A data processing system for performing risk-based pricing of an insurance policy, comprising:

means for receiving a request for a price on an insurance policy; and

means for generating a profitability score derived from an individually weighted multivariate statistical model **comprising a set of predictive variables, said set of variables generated from historical policyholder premium and loss data,** ~~using external~~ variables identified from external data sources independent of internal policy holder data of an insurance

company issuing the insurance policy, **and synthetic variables derived from said external data sources and said policyholder premium and loss data,**

~~wherein said external variables include any new variables created from said external data sources;~~

wherein said score is expressed as a sum of products, each of said products being a coefficient multiplied by a variable taken to a power, **wherein said coefficients are generated by operating on said set of predictive variables mathematically simultaneously,**

and wherein said score is a function of said ~~external~~ **set of predictive** variables.

34. (original) The system of claim 33 wherein the external data sources include at least one of business level data and household demographics data.